



## Downstream Migrant Trapping Summary



A captured coho smolt with a marked anal fin. Fin marks are used during mark/recapture tests to measure trap efficiency.

Photo Taken by Casey Del Real

### Volunteer Opportunities!

Although our smolt trapping season has come to a close, there are ample opportunities that remain to participate in the monitoring and restoration of the coho and steelhead of West Marin. Summer monitoring (electrofishing) will begin June 25, 2007 and last for approximately three months. Electrofishing is an excellent opportunity to monitor and handle a wide variety of aquatic species including coho salmon, steelhead, stickleback, sculpin, salamanders and whole lot more.

## End of the Season Trapping Summary

A big thanks to all of our volunteers who participated in the 2007 Downstream Migrant Trapping Surveys on Redwood, Pine Gulch, and Olema Creeks. Through their dedication and flexibility, we were able to successfully run all three trapping locations for 73 consecutive days.

### Trapping Season Highlights:

The 2007 trapping season was a very exciting year with a total of 20 adult steelhead observed migrating downstream during trapping operations. In a typical year we may observe one or two adult steelhead migrating back to the ocean. Higher than normal numbers of steelhead smolts and fry were also observed migrating downstream at all three trapping locations. Although coho smolt numbers were low compared to last year, total coho smolt captures were higher than expected when compared with the summer of 2006 basinwide juvenile estimates (1,793 for Olema, 1,050 for Redwood, and 295 for Pine Gulch). Preliminary coho smolt production estimates (Table 1) indicate higher than normal overwintering survival rates which ranged from 58% in Redwood Creek to 82% in Pine Gulch. The higher than normal survival rates could be due to the mild winter that we experienced this year and a decrease in intra-species competition explained by the lower than normal juvenile coho densities last year.

## Results:

The first coho smolt captured was on Olema Creek on March 16, 2007 which was only the second day of trap operations. On Redwood Creek the first coho smolt was captured on March 31<sup>st</sup> while Pine Gulch was the last trap to capture a coho with the first coho smolt captured on April 5<sup>th</sup>. Peak coho smolt outmigration occurred during the first week of May for both Pine Gulch and Redwood Creek, while Olema observed two peaks with the first peak occurring in mid April and the second peak occurring during the first week of May. Yearly totals for both coho and steelhead are summarized in Table 1 below.

The average 2007 smolt length for Olema, Redwood, and Pine Gulch Creeks was 117 mm, 115 mm, and 113 mm respectively. The average fork length for Olema and Redwood Creeks is higher than observed in previous years, which further supports a decrease in competition for food and habitat during the summer of 2006 and the 2006-07 winter. With their larger size at outmigration, the 2007 coho smolt outmigrants should have a better chance of survival in the ocean.

**Table 1. Summary of salmonid information for Olema, Redwood, and Pine Gulch Creeks trap operations, 1999-2007.**

Watershed	Year	Trap Operation Dates		Steelhead					Coho		Coho Production Estimate	
		From	To	Juvenile			Adult		smolt	fry	Estimate	SD
				smolt	parr	fry	resident	ocean-run				
Olema Creek	2004	30-Mar	28-May	13	5	140	0	0	229	32	831	± 167
	2005*	1-Apr	9-May	9	8	1218	0	1	87	14	1,296	± 724
	2006	10-Apr	9-Jun	6	19	497	0	0	368	51	10,544	± 8,399
	2007	15-Mar	27-May	253	134	451	1	12	330	717	1,065**	N/A
Redwood Creek	2005	27-Mar	31-May	1	1	344	0	0	301	535	2,481	± 616
	2006	18-Apr	9-Jun	18	0	24	0	0	1048	27	3,253	± 542
	2007	18-Mar	27-May	18	4	570	0	1	330	94	623**	N/A
Pine Gulch	1999	16-Apr	24-May	62	42	65	1	0	0	0	N/A	N/A
	2002	28-Mar	29-May	27	27	240	0	5	249	0	N/A	N/A
	2003	28-Mar	30-May	282	120	235	1	1	576	1	N/A	N/A
	2004	25-Mar	28-May	49	50	57	0	0	149	0	737	± 144
	2005	31-Mar	31-May	28	10	200	0	0	8	0	N/A	N/A
	2006	26-Apr	9-Jun	11	7	2	0	0	93	1	368	± 76
	2007	15-Mar	27-May	37	37	3190	0	7	75	0	242	N/A

Coho and steelhead presmolts are included in the coho and steelhead smolt totals.

\* Trapping discontinued May 9 due to high flows. Trap was not reinstalled.

\*\*Preliminary estimate based on average trapping efficiency for the entire trapping season.

## Volunteer Opportunities:

We are currently looking for volunteers to support us with our upcoming Summer monitoring operations. In particular, there is a need for assistance on electrofishing days starting July 10<sup>th</sup>. We will typically be electrofishing on Tuesdays and Thursdays of each week.

**For more information about our surveys:** contact Casey\_Del\_Real@partner.nps.gov or call 415-464-5141.



